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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/810,523	03/19/2001	Masao Minobe	Q65488	6184

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EXAMINER

NGUYEN, THONG Q

ART UNIT PAPER NUMBER

2872

DATE MAILED: 08/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/810,523

Applicant(s)

MINOBE ET AL.

Examiner

Thong Q. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 18-31,34,35,38 and 39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17,32,33,36 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species (a) shown in figs. 1 and 42 which species is directed to the use of a spatial filter in the diffraction image plane in Paper No. 10 of 6/19/2002 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

It is also noted that the Examiner has agreed to the applicant's statement that the claims readable from the elected species are claims 1-17, 32-33, 36 and 37.

Thus, the non-elected claims 18-31, 34-35, 38 and 39 have been withdrawn from further consideration as being directed to non-elected species.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Oath/Declaration

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not identify the citizenship of each inventor.

Drawings

4. The drawings contain thirty-eight pages of figures 1-64 filed on 3/19/2001 have been received by the Office.

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feature concerning the mechanism for adjusting the distance between the diffraction image plane and the sample as recited in each of claims 4 and 15 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feature concerning the mechanism for adjusting/aligning the direction of light through the spatial filter and the optical axis of the objective lens as recited in each of claims 5 and 16 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

7. The abstract of the disclosure is objected to because the term "means" is used. Correction is required. See MPEP § 608.01(b).

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8. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

9. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

10. The disclosure is objected to because of the Summary is too long, i.e., 27 pages, and contains numerous details of the inventive device as well as references to the prior art. Applicant should provide a brief Summary of the invention and move other detailed descriptions to the section of "Detailed Description of the Invention". Appropriate correction is required.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. Claims 36 and 37 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of observing an image of a sample by using a microscope having an illuminating system, a spatial filter disposed in or near the diffracting image plane and an observation system having an objective lens wherein the method comprises a plurality of steps including the step of moving the condenser lens in the illuminating system for changing the position of the converging point of illuminating light, the step of moving the objective lens for focusing, etc., does not reasonably provide enablement for a method of observing an image of a sample by using a microscope having an illuminating system, a spatial filter disposed in or near the diffracting image plane and an observation system having an objective lens wherein the method comprises only one step of moving the position of the converging point of illuminating light. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 1-17, 32-33, 36 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 1 is rejected under 35 USC 112, second paragraph because it is unclear about the structure for converging light transmitted or reflected from the same as

recited in the feature thereof "an objective lens...converging point" (lines 5-8).

Applicant should note that the illuminating means for providing a convergent beam converging at a point in a space as recited on lines 2-3 is not considered as a system/means for supporting the feature recited on lines 5-8 of the claim because the claim fails to recite any essential structural limitations of the two features .

b) Claim 2 is rejected under 35 USC 112, second paragraph because it is unclear about the recitation thereof "said objective lens... said sample" (lines 2-5). In other words, it is not understood how a diffraction image plane which contains an image of a sample can include the sample.

c) Claim 13 is rejected under 35 USC 112, second paragraph for the similar reason as set forth in element b) above.

d) Each of claims 32, 33, 36 and 37 is rejected under 35 USC 112, second paragraph for the similar reason as set forth in element a) above.

f) The remaining claims are dependent upon the rejected base claim and thus inherit the deficiencies thereof.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claim 1, as best as understood, is rejected under 35 U.S.C. 102(b) as being anticipated by Ellis (U.S. Patent No. 4,255,014).

Ellis discloses a microscope having an illuminating system. The device as described in columns 5-8 and shown in fig. 1, for example, comprises an illuminating system for providing light which is converged onto a point in space, a stage for supporting a sample located in front of the converged point, and an objective system for receiving light passing through the converged point.

17. Claim 1, as best as understood, is rejected under 35 U.S.C. 102(b) as being anticipated by Greenberg (U.S. Patent No. 5,305,139).

Greenberg discloses a microscope having an illuminating system. The device as described in columns 3-5 and 7-12 and shown in figs. 2 for example, comprises an illuminating system for providing light which is converged onto a point in space, a stage for supporting a sample located in front of the converged point, and an objective system for receiving light passing through the converged point.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claim 2, as best as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Greenberg in view of Shimada et al (U.S. Patent No. 6,043,475).

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The microscope having an illuminating system as provided by Greenberg does not disclose the movement of the objective lens for focusing with respect to the diffractive image plane and the sample. However, the movement of an objective lens and the movement of a condenser lens with respect to an object to be illuminated and/or imaged as well as the diffracting image plane in a microscope is known to one skilled in the art as can be seen in the microscope provided by Shimada et al. See column 15 and fig. 14, for example. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the microscope provided by Greenberg by adjusting the position of the objective lens with respect to the sample for the purpose of adjusting the focus.

20. Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenberg in view of Ellis

The microscope having an illuminating system as provided by Greenberg discloses the use of polarization elements in the illuminating light path as well as in the observed light path; however, Greenberg does not clearly teach the rotation of the polarization elements and the sample to be illuminated. However, the rotation of polarization elements and the sample in a microscope for changing the illumination pattern and/or the observation pattern is clearly suggested to one skilled in the art as can be seen in the system provided by Ellis. See columns 6-7. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the microscope provided by Greenberg by rotating the polarization elements and/or the

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sample as suggested by Ellis for the purpose of varying the illumination and/or observation patterns.

21. Claim 13, as best as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Greenberg in view of Ellis as applied to claim 7 above, and further in view of Shimada et al.

The combined product as provided by Greenberg and Ellis does not disclose the movement of the objective lens for focusing with respect to the diffractive image plane and the sample. However, the movement of an objective lens and the movement of a condenser lens with respect to an object to be illuminated and/or imaged as well as the diffracting image plane in a microscope is known to one skilled in the art as can be seen in the microscope provided by Shimada et al. See column 15 and fig. 14, for example. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the microscope provided by Greenberg and Ellis by adjusting the position of the objective lens with respect to the sample for the purpose of adjusting the focus.

Allowable Subject Matter

22. Claims 3-5 and 14-17 are objected to as being dependent upon a rejected base claim, but would be allowable if each of claims 3 and 14 is rewritten in independent form including all of the limitations of the base claim and any intervening claims.

23. Claims 32 and 33 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

24. The following is an examiner's statement of reasons for allowance:

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25. The device as claimed in each of claims 3/2/1; 14/13/7/1, 32 and 33 is allowable with respect to the cited art by the limitations of the microscope having an illuminating system as recited in the claim. In particular, the cited art does not disclose a microscope having an illuminating for providing light which is converged at a location in space, a stage supporting a sample located in front of the convergent point, an object system for receiving the light passing through the convergent point wherein a spatial filter is positioned in the diffracting image plane containing the convergent point.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references are cited as of interest in that each discloses an illuminating system for a microscope wherein at least one spatial filter is used in the illuminating system.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (703) 308-4814. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on (703) 308-1687. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

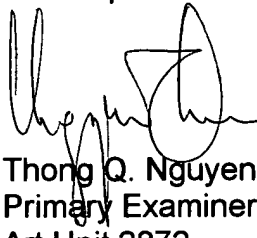
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308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.



Thong Q. Nguyen
Primary Examiner
Art Unit 2872

August 17, 2002